Patent claims

1. A device for calibration of a mass flow sensor (14), with a flow channel and a holder for a mass flow sensor in the flow channel, which is connected at one end to a pump (32), characterized in that provided between the holder of the pump is an adjustable throttle device (24, 26), which can be adjusted during the calibrating operation on the basis of a predetermined time/displacement profile by means of a control device and, during operation of the pump, generates a supercritical flow with which the flowing medium has the speed of sound in the narrowest cross section of the throttle device.

2. The device as claimed in claim 1, characterized in that a variable nozzle is provided as the adjustable throttle device.

3. The device as claimed in claim 2, characterized in that the variable nozzle (24) has a conically widening portion and a spike (26) which is arranged in the portion and the position of which is adjustable by means of a drive (28) in the portion, in order to change the free cross section in the portion.

4. The device as claimed in claim 3, characterized in that the spike (26) has the form of a cone or truncated cone which is arranged centrally in the portion.

5. The device as claimed in claim 4, characterized in that the spike is adjustable along a longitudinal axis (B).

6. The device as claimed in one of claims 1 to 5, characterized in that sensors (18, 20, 22) for

sensing state variables of the mass flow are arranged between the air mass sensor and the throttle device.

7. The device as claimed in one of claims 1 to 6, characterized in that devices for measuring temperature, relative atmospheric humidity and/or pressure are provided.

8. A method for calibration of a mass flow sensor (14), which has the following method steps:

- a mass flow sensor to be calibrated is arranged in a flow channel,
- a mass flow corresponding to a mass flow/time profile is generated in the flow channel,
- the mass flow passes through a throttle device with a supercritical flow with which the flowing medium has the speed of sound in the narrowest cross section of the throttle device.

9. The method as claimed in claim 8, characterized in that an adjustable nozzle which varies the mass flow past the mass flow sensor to be calibrated in a way corresponding to a predetermined time curved is provided as the throttle device.